January 5, 2010 9:48:00 AM

Item ID:

D206-642-241

Accept



Setup Start



Revision ID:

Item Name:

Required Date: 18/C \$2010

Replacement Skidtube

Start Date:

05/01/25:10

Start Oty: 1.00 Rea'd Oty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date: 10-1-05 Tooling:

Date:

Run

Start

QC:

Date:

SPC (Y/N):

0.00

0.00

Date:

Stop

Sequence ID/ Work Center ID Operation Description Set Up/ Run Hours Draw Number Draw Rev.

Plan Code Accept

Reject

Reject Insp. Stamp Number

Draw Nbr

Revision Nbr

D2650

100

DC

Document Control

Rev F

DOCUMENT CONTROL

Memo

Photocopy bluefile & type labels per PPP D206-642-241

110



Skidtubes

Skidtubes

Memo

0.00

0.00

1-Deburr Fwd edge of tube 12- Remove ridge on inside of Fwd edge of tube as per Dwg D2650 3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod.

Grind D2647 to fit as required Pick: Oty Part Number

DescriptionBatch A/R Aluminum Rod_

0.00

120

Memo

QC6- Inspect dimensions to drawing

0.00

Quality Control

W/O:			WORK ORDER (HANGES				1
DATE	STEP	PRO	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / "Prod Mgr"	Approval QC Inspector
		Was a Market Control of the Control						
Part No):	PAR #:	Fault Category:	NCR: Yes	No DQ	A:	Date: _	

	Re	esolution:	Dispositio	n:	QA: N/C Clos	sed:	Date: _	· · · · · · · · · · · · · · · · · ·
NCR:			WORK ORDI	ER NON-CONFORMAN	ICE (NCR)			
	T	Description of NC		Corrective Action Section	В	Verification	Ammanal	Ammanal
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
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						American		
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Routing Seq ID/ Description/Memo	Work Center ID	Tool Kit/Tape	Std Process ID/ Description	Yield %	Queue Time	Setup Time	Machine Time	Labor Time	Move Time	Var. Outpl Outpl. LT
<u>n ID:</u> D206-642-241	<u>Item N</u>	Name: Replacement S	kidtube						-	
Routing Type: Production										
100	DC			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
DOCUMENT CONTROL	·				0.0000	0.0000	0.0000	0.0000	0.0000	
Photocopy bluefile & ty	pe labels per PPP D206-	642-241 CHG0	05							
		Т	otal for Routing Seque	nce [100] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
110	Skidtubes			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
Skidtubes	_	, / ,			0.0000	0.0000	0.0000	0.0000	0.0000	
1-Deburr Fwd edge of t	ube &C	10/01/07	1							-
	on	7 7	ac dula	2						

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

Qty : .Part Number[] Description[]Batch

Number[] Description[]Batch
Aluminum Rod[] M112869/m112807

BE 10/01/14

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg 2650 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D2650

7-Open holes for Aft end cap as per Dwg D2650 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt 8167.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16 holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D2650

13-Remove D3286-1 doubers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D2650

15-C'sink GHW rivet holes as per Dwg D2650

Total for Routing Sequence | 110|:

0.0000

0.0000

0.0000

0.0000

0.0000

0.0000

Page 2 of 5

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Routing Print

January 7, 2010 10:52:19 AM

Routing Seq ID/ Description/Memo	Work Center ID	Tool Kit/Tape	Std Process ID/ Description	Yield %	Queue Time	Setup Time	Machine Time	Labor Time	Move Time	Var. Outpl/ Outpl. LT
120	QC	· -	QC6	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			QC6- Inspect dimensions to drawing	100.00%	0,0000	0.0000	0.0000	0.0000	0.0000	
			Fotal for Routing Sequ	ence [120] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
130	Skidtubes			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Skidtubes				,	0.0000	0.0000	0.0000	0.0000	0.0000	all.
I-Open crossbolt holes t	to Ø0.3125"									
2-Drill pilot holes using 3-Deburr tube and blow		to Ø0.297" as per Dwg [D2650. Open Aft cap ho	ole #6.	И	10/1/	19			
5-Debail tabe and blow	out emps from miside t		Total for Routing Sequ	/ anaa 120 .	0.0000	0.0000	0.0000	0.0000	0.0000	
140	HandFinish		HandFinish1	100.00%	0.0000	0.0000	0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000
	A CONTRACTOR OF THE CONTRACTOR		Chamical	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		410/1/20	Conversion Coat per QSI005 4.1	100.0070	0.0000		0.0000	0.0000	0.0000	
		, Т	Total for Routing Sequ	ence 140] :	0.0000	0.0000	0.0000	0.0000	0.0000	0,000
150	QC 🗸	3E10/01/20	QC3	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	ζ,	FIE 10/01/0-	QC3- Inspect Part Finish	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
•		Т	Total for Routing Sequ	ence 150] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
160	Skidtubes		.=	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Skidtubes					0.0000	0.0000	0.0000	0.0000	0.0000	
-Open holes to finished	size as per Dwg D265	0, D2650-3 Drilling Det	ail (without cutting flu	id)						
2-C'sink crossbolt space	r holes as per Dwg D26	550(without cutting fluid	1)	•	٧,	10/11	120			
B-Deburr and blow out a	II chips from inside the	e tube			H	(0)				
		1	Total for Routing Sequ	ence [160] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70	QC		QC6	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			QC6- Inspect	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
			dimensions to drawing		Scolor	lzo				
		Т	otal for Routing Sequ	ence 1701 ·	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Routing Print
January 7, 2010 10:52:19 AM

•	Work Center ID	Tool Kit/Tape	Std Process ID/ Description	Yield %	Queue Time	Setup Time	Machine Time	Labor Time	Move Time	Var. Outpl. Outpl. LT
180	Skidtubes		· · · · · · · · · · · · · · · · · · ·	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Skidtubes					0.0000	0.0000	0.0000	0.0000	0.0000	
1-Locate, install and riv	et doublers as per Dwg D	2650. Micro-shave ri	vets as required	\				• •		±
Start Date: \(\frac{\O/1/2}{\Disc}\) Finish Date: \(\frac{\LC}{\LC}\) Pick: Qty ::\(\Part\) Number \(\D\)De	n place as per QSI 015. E QTTime:(1) 3 (20) C HTime:(1) 8'.4\Sq.		low 12 Hrs. cure time be	efore cutting	h)	0/1/2	0			
A/R:Sikaflex-29122 Sikaflex expire date:[1]										
			otal for Routing Seque	ence [180] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
190	QC		QC5	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			QC5- Inspect part completeness to step on W/O	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
		7	otal for Routing Seque	ence 190 :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
200	Skidtubes			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Skidtubes			/		0.0000	0.0000	0.0000	0.0000	0.0000	
1-remove alodine from a	around hole and prepare f	or welding 🎉	E 10/01/21							
		_								
			SI 004 and Dwg D2650.	Remember to ba	ack drill each h	ole to 0.25" be	fore welding the o	other		
2-Prep per QSI 005 and side. Use aluminum roo Pick:	d. MILA507	pacers. Weld as per Qu	SI 004 and Dwg D2650.	Remember to ba	ack drill each h	ole to 0.25" be:	fore welding the	other		
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty: Part Numbert i Des A/R : Aluminum Rod 3-Grind welds flush as p	d. MILA507	acers. Weld as per Q	SI 004 and Dwg D2650.							
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty: Part Number! Des A/R : Aluminum Rod 3-Grind welds flush as put 4-Using DT8733, insert as required. A/R: SS Rod:	d. Acceptable Batch Acceptable Batch Acceptable Acceptabl	er QSI 004 and Dwg J	2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /	ack drill each hole	e to Ø0.402" be					
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty::Part Number!:Des A/R:::Aluminum Rod 3-Grind welds flush as put 4-Using DT8733, insert as required. A/R: SS Rod::	d. scription Batch	er QSI 004 and Dwg Je from Aft end as per	SI 004 and Dwg D2650. Document of the Dwg D2650. Remember to be Dwg D2650. Deburr	ack drill each hole	e to Ø0.402" be	efore welding o	ther side. Use SS	S rod	0.0000	0.0000
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty::Part Number::Des A/R*:::Aluminum Rod 3-Grind welds flush as p 4-Using DT8733, insert as required. A/R: SS Rod*:	d. Scription Batch 50 7 Der Dwg D2650. (2) D3286-3 spacers as p OFF Be 0.750" deep except 7th ho	er QSI 004 and Dwg Je from Aft end as per	2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /	ack drill each hold	e to Ø0.402" be / 2.5 0.0000	efore welding o	ther side. Use SS 0.0000	5 rod 0.0000	0.0000 0.0000	0.000 0
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty::Part Number!:Des A/R:::Aluminum Rod 3-Grind welds flush as put 4-Using DT8733, insert as required. A/R: SS Rod::	d. Acceptable Batch Acceptable Batch Acceptable Acceptabl	er QSI 004 and Dwg Je from Aft end as per	SI 004 and Dwg D2650. Document of the Dwg D2650. Remember to be Dwg D2650. Deburr	ack drill each hole	e to Ø0.402" be / 2.5 0.0000 0.0000	ofore welding o	ther side. Use SS	S rod	0.0000	0.000 0 0.0000
2-Prep per QSI 005 and side. Use aluminum roo Pick: Qty: Part Numbert Des A/R Call Aluminum Rod 3-Grind welds flush as pure 4-Using DT8733, insert as required. A/R: SS Rod Call A/R: SS Rod Call Call Call Call Call Call Call Cal	d. deription Batch 50 7 der Dwg D2650. (2) D3286-3 spacers as p (2) Batch 50 7 Der Dwg D2650. (3) D3286-3 spacers as p (4) Batch 50 7 Der Dwg D2650. HandFinish	er QSI 004 and Dwg Je from Aft end as per	SI 004 and Dwg D2650. Document of the Dwg D2650. Remember to be Dwg D2650. Deburr	ack drill each hold	e to Ø0.402" be / 2.5 0.0000	efore welding o	ther side. Use SS 0.0000 0.0000	6 rod 0.0000 0.0000		

Routing Print

January 7, 2010 10:52:20 AM

Routing Seq ID/ Description/Memo	Work Center ID Tool Kitz	Tape Std Process ID/ Description	Yield %	Queue Time	Setup Time	Machine Time	Labor Time	Move Time	Var. Outpl/ Outpl. LT
220	QC	QC9	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	seca -780 10.01 Q(10-78 10/-1	QC9- Inspect visual per QSI004- Fusion	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
	QC10-78 10/-1	つと Welds							
		Total for Routing Seque		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
230	QC	QC5	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		QC5- Inspect part	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
		completeness to step on W/O		_2	iolaclas	, •	(tc)		
		Total for Routing Seque	nce 230] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
240	HandFinish	HandFinish2	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		Pressure Wash per	100.00%	0.0000	0.0000	0.0000	0.0000	0,0000	
		QSI005 4.3			Í	X 10-01	1-26	(1)	
		Total for Routing Seque	nce [240] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
250	Powdercoat	Powdercoat1	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		White	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	
M1131	70	Gloss(Ref.4.3.5.1) per QSI005 4.3-			0,000			0.000	
START TIME: 11 OVEN TEMPERATUI FINISH TIME: 12	:30Am RE: 3269= => }	10-01-Z	6	(XI)					
1-5		Total for Routing Seque	nce [250] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
260	QC	QC3	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		QC3- Inspect Part Finish	100.00%	0.0000	0.0000	R 10-0	0.0000	0.0000	Ο,
		Total for Routing Seque	nce 260 :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Routing Print

January 7, 2010 10:52:20 AM

Routing Seq ID/ Description/Memo	Work Center ID	Tool Kit/Tape	Std Process ID/ Description	Yield %	Queue Time	Setup Time	Machine Time	Labor Time	Move Time	Var. Outpl/ Outpl. LT
.270	HandFinish			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HandFinishing			·		0.0000	0.0000	0.0000	0.0000	0.0000	
1- Install inserts & wear A/R::: Sikaflex-291::_Sikaflex expire date::!_	pads as per dwg D2922. 1 112345 16/08	Use a drop of Sikaflex	inside insert holes befor	e installing wea	rpad/wearplate.					
2-Install D2651-3 O-Rin	ngs on D2651-1 plugs wit	h Petroleum Jelly and	install plugs as per Dwg	; D2650 (D2650	-3 detail). Clea	an excess adhesiv	/e.	10-01	-28	\mathcal{O}_{λ}
3-Install MS27039-4-06	Screw as per DEO 9153						164	100		
4 -Install D2646 Aft Cap A/R Sikaflex-291! Sikaflex expire date: 11	and seal with Sikaflex.	Clean excess adhesive								
5 -Wing Walk as per Dv A/R Batch: Batch:	vg D2650-3 and QSI 005	4.4	- l	0/01/	28	(IX				
, ,	0 - 1 -	Т	otal for Routing Seque	ence [270] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
300	QC		QC5	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			QC5- Inspect part completeness to step on W/O	100.00%	0.0000	8 10/61/Z	9 (2)	0.0000	0.0000	
		Т	otal for Routing Seque	ence [300] :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
310	Packaging			100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Packaging					0.0000	0.0000	0.0000	0.0000	0.0000	
Identify and pack for shi Location: PPP Rev:	pping as per PPP D206-6	664-241						Commission on the commission of the commiss	• • •	
		Т	otal for Routing Seque	ence 310 :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
320	QC		QC21	100.00%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			QC21- Final Inspection - Work Order Release	100.00%	0.0000	0.0000 10/02/0	0.0000 DY 1	0.0000	0.0000	
		T	otal for Routing Sequ	ence 320 :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total for	r Alternate Route Pr	oduction] of Item [D20	06-642-241 :	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	• •	•								

Work Order ID 54920

January 5, 2010 9:48:00 AM

Required Date: 18/0 \$2010

Item ID:

D206-642-241

Accept



Setup Start



Revision ID: Item Name:

Replacement Skidtube

Start Date:

05/01/2010

Start Qty: 1.00 Reg'd Qty: 1.00

Cust Item ID: **Customer:**

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ **Work Center ID**

Operation Description Set Up/ **Run Hours**

Number

Draw Rev.

Plan Accept Qty Code

Reject Qty

Run

Reject

Insp. Number Stamp

130

Skidtubes

Skidtubes

Memd

Memo

0.00

0.00

Skidtubes

1-Open crassbolt holes to @0.3125" 22-Drill pilot holes using DT8028-3, then open to Ø0.297" as per Dwg D2650. Open Aft cap hole #6. □3-Deburr tube and

blow out chips from inside the tube

140

HandFinish

Chemical Conversion Coat per QS10Q5 4.1

0.00

0.00

Hand Finishing

150

QC

Quality Control

QC3- Inspect Part Finish

Memo

0.00

STEP	THE REPORT OF THE PERSON OF TH		WORK ORDER CHANGES										
SILF	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector							
				4.									
1					4								
	•					Prod Mgr							

Part No:		PAR #:	Fault Cate	gory:	NC	R: Yes N	o DQA :	_ Date: _	
•	Res	solution:	Dispositio	n:	QA	: N/C Clos	sed:	Date: _	
NCR:			WORK ORD	ER NON-CONFO	DRMANCE	E (NCR)			
		Description of NC		Corrective Action	Section B		Verification	Annroyal	Annrow
DATE	STEP	Section A	Initial Action		n Description Sign &		Section C	Approval Chief Eng	Approva QC Inspect

		Description of NC		Corrective Action Section B		Verification	Annroyal	Annroyal
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
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Work Order ID 54920



January 5, 2010 9:48:00 AM

Accept D206-642-241 Item ID: Setup Start Revision ID: Stop Item Name: Replacement Skidtube Start Oty: 1.00 **Start Date:** 05/01/2010 **Cust Item ID:** Required Date: 18/01 3010 Req'd Qty: 1.00 **Customer:** Reference: Start Run Process Plan: Date: Tooling: Date: Approvals: Stop QC: ____ Date: ____ SPC (Y/N): Date: Set Up/ Plan Accept Reject Reject Insp. Operation Draw Draw Sequence ID/ Rev. Code Qty Qty Number Stamp Number Work Center ID Description **Run Hours** 0.00 160 Skidtubes 0.00 Skidtubes 1-Open holes to finished size as per Dwg D2650, D2650-3 Drilling Detail Skidtubes (without cutting fluid) 2-C'sink crossbolt spacer holes as per Dwg D2650(without cutting fluid) 3-Deburr and blow out all chips from inside the tube OC6- Inspect dimensions to drawing 0.00 170 0.00 Memo Quality Control 180 Skidtubes Skidtubes 0.00 Memo 1-Locate, install and rivet doublers as per Dwg D2650. Micro-shave rivets as Skidtubes required 2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up.Allow 12 Hrs. cure time before cutting. Start Date: Time: ____Finish Date:

W/O:				WORK ORDER	CHANGES					•
DATE	STEP		PR	OCEDURE CHANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approvai QC Inspector
	ŧ							;	ì	
								,		
						:				
Part No	:		PAR #:	Fault Category:	NC	R: Yes	s No DQ	A :	Date: _	
	R	esolution:	· · · · · · · · · · · · · · · · · · ·	Disposition:	QA	: N/C (Closed:		Date: _	
										·····

NCR:		WORK ORDER NON-CONFORMANCE (NCR)										
		Description of NC		Corrective Action Section B		Verification	Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	QC Inspector				
		10000										
								wyw.				
,												

Work Order ID 54920



January 5, 2010 9:48:00 AM

Item ID:

D206-642-241

Accept



Setup Start

Stop



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

QC:

05/01/2010/_s Start Qty: 1.00

Required Date: 18/01/20 Req'd Qty: 1.00

Cust Item ID:

& Customer:



Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date: SPC (Y/N):

Date: Date:

Start

Run



Sequence ID/

Work Center ID

190

Quality Control

200

Skidtubes

Skidtubes

Operation Description

QC5-Inspect part completeness to step on W/O

Set Up/ **Run Hours** Draw Number Draw Rev. Code

Accept Qty

Reject Qty

Number Stamp

0.00

0.00

0.00

Skidtubes

Memo

Memo

0.00

1-remove alodine from around hole and prepare for welding[]2-Irsert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum

rod. Pick: OtyPart NumberDescriptionBat

210

HandFinish

Hand Finishing

HandFinishing

Memo

0.00

0.00

Install D2680-041 Nut Plate as per Dwg D2650

Stop

W/O:

W/O:		WORK ORDER CH	ANGES				•
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
					.		
				• • • • • • • • • • • • • • • • • • • •	<u></u>		
Part No	:	PAR #: Fault Category:	NCR: Yes	No DQ	A:	Date: _	

Resolution: _____ Disposition: ____ QA: N/C Closed: ____ Date: ____

NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCR)			
		Description of NC		Corrective Action Section B	}	Verification	_	Ammerical
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
						:		
								:
NOTE: D	ate & initial a	all entries						

Work Order ID 54920

Pressure Wash per QSI005 4.3

Memo



240

HandFinish

Hand Finishing

January 5, 2010 9:48:00 AM Accept Setup Start D206-642-241 Item ID: **Revision ID:** Stop Replacement Skidtube Item Name: **Start Date:** 05/01/2010 **Start Qty:** 1.00 **Required Date:** 18/01/2010 **Required Qty:** 1.00 Cist Item ID: austomer: Reference: Start Run Process Plan: **Tooling:** Date: _ _ Date: Approvals: Stop SPC (Y/N): Date: Date: Reject Draw Accept Reject Operation. Set Up/ Sequence ID/ Qty Qty Number Stamp Description **Run Hours** Number Rev. Code Work Center ID QC9- Inspect visual per QSI004- Fusion Welds 0.00 220 0.00 Memo Quality Control QC5- Inspect part completeness to step on W/O 0.00 230 0.00 QC Memo Quality Control

0.00

0.00

W/O:			WORK ORDER CHANGES						
DATE	STEP	PR	OCEDURE CHANGE	B	у	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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·						, ,			
					:	•			
Part No	:	PAR #:	Fault Category:	NCR: \	Yes	No DQA	:	Date: _	
	Pas	olution:	Disposition:	Ο Δ : N/	C CI	ocod:		Data	

NCR:		,	WORK ORDI	ER NON-CONFORMANO	CE (NCR)			
		Description of NC		Corrective Action Section B		Verification	A	Ammuousi
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
747 6.4								
						}		



January 5, 2010 9:48:00 AM

Item ID:

D206-642-241

Required Date: 18/01/2010 | Seq'd Qty: 1.00

Accept



Setup Start

Stop



Revision ID: Item Name:

Replacement Skidtube

Cust Item ID:

Castomer:



Reference:

Approvals:

Start Date:

Tooling:

Date:

Start Run



QC:

Process Plan: Date:

05/01/2010 Størt Oty: 1.00

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID

250



Powdercoat

Powder Coating

260



QC

Quality Control

270



HandFinish

Hand Finishing



White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

Set Up/ **Run Hours**

Draw Number

Draw Rev.

Plan Code

Qty

Accept Reject Qty

Number Stamp

START TIME:

0.00

0.00

OVEN TEMPERATURE:

QC3- Inspect Part Finish

Memo

0.00

0.00

DEFINISH TIME:

HandFinishing

0.00

1- Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate. A/RSikaflex-

Sikaflex expire date:

3 O-Rings on D2651-1 plugs with Petroleum

2-Install D2651-

W/O:		WORK ORDER CHANGES	S		,	- 100 - 50 - 50 - 50 - 50 - 50 - 50 - 50	,
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No		DAD # Foult Cotogony	NCD: Vo	No DO	١.	Dotos	

Part No:		PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed:	Date:

NCR:			WORK ORDE	ER NON-CONFORMANO	CE (NCR)			
DATE STED		Description of NC Corrective Action Section B		Verification	Approval	Approval		
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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Work Order ID 54920



January 5, 2010 9:48:01 AM

Required Date: 18/01/2010

Item ID:

D206-642-241

Accept



Setup Start

Stop



Revision ID:

Start Date:

Replacement Skidtube Item Name:

05/01/2010

Start Qty: 1.00 Raj'd Qty: 1.00

Cust Lem ID: Cuspmer:

Reference:

Approvals:

Process Plan: Date:

Tooling:

0.00

0.00

Date:

Start

Run



Date: _____

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID

280

HandFinish

Hand Finishing

Operation Description

HandFinishing

Set Up/ **Run Hours** Draw Number

Rev.

Plan Code

Accept Qty

Reject Qty

Number Stamp

1-Instal N2646 Aft Cap and seal with Sikaflex. Clean excess achesive

A/RSikaflex-291

Sikaflex expire date: Wing Walk as per Dwg D2650-3 and QSI 005 4.4 Batch:

QC3- Inspect Part Finish

0.00

0.00

QC

Quality Control

Memo

Memo

300

290

Quality Control

OC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

W/O:			WORK ORDER CHANGES						, ,
DATE	STEP	PI	ROCEDURE CHANGE	В	у	Date	Qty	Approval Chief Eng / Prod Mgf	Approval QC Inspector
·									
									_
Part No) :	PAR #:	Fault Category:	NCR: `	Yes N	o DQ	A :	_ Date: _	
	R	esolution:	Disposition:	QA: N/	C Clos	ed:		Date: _	

NCR:	WORK ORDER NON-CONFORMANCE (NCR)							
DATE OTEN		Description of NC	Corrective Action Section B		Verification	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
	-							
NOTE: D	ate & initial	all entries						



January 5, 2010 9:48:01 AM

Item ID:

D206-642-241

Accept

Setup Start



Stop



Revision ID:

Replacement Skidtube Item Name:

Start Date:

05/01/2010

Start Qty: 1.00 R d Qty: 1.00

Cust Bem ID:

Custamer:

Reference:

Approvals:

Required Date: 18/01/2010

Date:

Tooling:

Start



Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ **Work Center ID**

310

Packaging

Packaging

Operation Description

Packaging

Set Up/ **Run Hours**

Draw Rev. Number

Plan Code Accept Qty

Reject Qty

Reject Number Stamp

Run

Identify and pack for shipping as per PPP D206664241 IF APPLICABLE Location:

0.00

320

QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

	Dart	Aeros	pace	Ltd
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W/O:		WORK ORDE	R CHANGES)				
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Part No:	PAR #: Fault Categ	ory: NCR: Yes No	DQA:	Date:	•
Resolution:	Disposition	: QA: N/C Close	d:	Date:	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)										
		Description of NC		Corrective Action Section B	Verification	Approval	Approval					
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector				
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January 7, 2010 10:55:24 AM

Criteria: Item ID: d206-642-241, All Product Families, All Item Types, All Categories, All Buyers/Planners, Effective Start Date: 1/07/10.

Single Level Bill of Material Standard Report

As of:

1/07/10

m Name ubler p trusion Round 3" 206 eb erry Rivet oss Bolt Spacer acer t Plate erry Rivet	Replacement Item ID	2.0000 1.0000 1.0000 1.0000 52.0000 18.0000 2.0000 1.0000	Each Each Each Each Each Each Each Each	12/05/09 1/07/10 12/05/09	B47692 2 B55352 B54448 B55041 N M12314 N B51529(N B46643 (B/N & E10/01/18 & E10/01/18 D/1/25 BE 10/01/18 BE 10/01/18
ubler p trusion Round 3" 206 eb erry Rivet oss Bolt Spacer acer t Plate	Replacement Item 1D	2.0000 1.0000 1.0000 1.0000 52.0000 18.0000 2.0000 1.0000	Each Each Each Each Each Each	12/05/09 12/05/09 1/07/10 12/05/09 1/01/08 12/05/09 12/05/09	B47697-2 B55352 B54448 B55041 N M12314 N B51529(N B46643/	BEIDOILE DIVIZO
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			Each	12/05/09	355766 D	- July
erry Rivet					" 'J J J J J J J J	N 10/1/25
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Cap 48109		1.0000	Each	12/05/09	DK 10-01-0	2 8 .
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	ert /10511 rew /109061	rew 109061 Asher 110985 Additional Head State Head St	rert //0611 44, 44.0000 rew /09061 1.0000 sher //0985 46.0000	rert //0611 44, 44.0000 Each rew /09061 1.0000 Each rsher //0985 46.0000 Each	ert //0611 44, 44.0000 Each 1/01/08 ew /09061 1.0000 Each 1/01/08 sher //0985 46.0000 Each 1/01/08	rest $1/0611$

Single Level B	ill of Material Standard Report As	s of: 1/07/10				
Parent Item II Item Name	D206-642-241 Replacement Skidtube	Unit Measure Eac	ch	Replacement	Item ID	
Item ID	Item Name	Replacement Item ID	Qty/ Assy	Unit Measure	Eff. Start Date	Eff. Stop Date
9D3537-3	Wearpad 35697		1.0000	Each	1/07/10	7
D3535-13	Wearshoe 37484		1.0000	Each	1/07/10	
D3536-13	Gasket 38 761		1.0000	Each	1/07/10	
D3535-21	Wearshoe $3762+$		1.0000	Each	1/07/10	18/1000
D3536-21	Gasket 47010		1.0000	Each	1/07/10	W 10-01-28.
D3535-33	Wearshoe 5(647		/ 1.0000	Each	1/07/10	
D 3536-33	Gasket 51593		1.0000	Each	1/07/10	1

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION	
X	1			D2650-1	SNOTUBE ASSEMBLY	7
	Х			D2650-3	SKIDTUBE ASSEMBLY	7
		X		D2659-5	SKICTUBE ASSEMBLY	7
			Х	02656-7	SIGOTUBE ASSEMBLY	
1	1	1	1	D2600-1-169	EXTRUSION	7
1				D2654-1	WEB	
	1			D2654-3	WEB 🥞	7
		1		D2654-5	WEB	7
			1	D2654-7	WEB .	7
1	1	1	1	D2646	AFT CAP	7
1	1	1	1	D2647	CAP	I_{A}
17	18	. 19	23	D2649	CROSS BOLT SPACER	╟ӻ╲
16	18	14	22	D2651-1	PLUG	<u> </u>
16	18	14	22	D2651-3	O-RING	
1	1	1	1	D2680-041	NUT PLATE]
2	2			D3286-1	DOUBLER	
2	2			D3286-3	STUD	
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)	1
2	2	2	2	AN986JD10L	WASHER	
2	2	2	2	CCR264SS3-3	RIVET	1
2	2	2	.2	CR3212-4-03	RIVET	
2	2	2	2	MS27039-1-08	SCREW	7

MATERIAL: N/A

1

52

1

FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3

MS27039-4-06

AN960J0416

CR3212-4-04

BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4

TOLERANCES: PER DART OSI 016 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE MOTED

1

BREAK SHARP EDGES: 0.005 TO 0.010 MAX

IDENTIFICATION: NONE

WEIGHT: N/A

WELD PER DART OSI 004

DAMAGE TOLERANCE ON FWO BEND:

THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE

SCREW

RIVET

WASHER

GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150' IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

I BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADMESIVE PER DART OSI 015

) INSERT D2651-1 PLUG CAV D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

) DRILL @0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUSE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5

TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.

I TOLERANCES ARE PER DART OSI 018 UNLESS OTHERWISE NOTED

SHOP COPY RETURN TO **ENGINEERING** UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER NO. 5 4920 B/10-1-05

D

С

В

DRAWING UPDATED TO CURRENT STANDARDS, SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS AJS 69.60.80 TRANSFERED TO SHT 6, SHT 1 IN PL PART 02649 QTY UPDATED, SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239). RMOVE CBORE, CHG DRILL, ADD CHAMFER 06.03.30 REDRAW: INCORP. DE09136/9153/9163 ÇP. 04.05.17 MOD GROUND HANDLING ON D2650-1/-3 CHANGE HOLE PATTERN AND FRONT END DS 97.10.29 AS MANUFACTURED CHANGES 8 08 57.06.26 NEW ISSUE Α CS 97,03.25 REV. DESCRIPTION 87 DATE DART AEROSPACE USA, INC DESIGN DS DRAWN PORT HADLOCK, WA

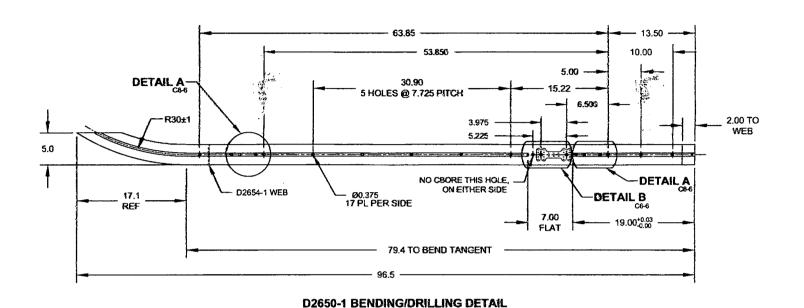
CHECKED BRAWING NO. REV. F D2650 WFG. APPR SHEET 1 OF 6 APPROVED TITLE SOME 206/407 SKIDTUBE ASSEMBLIES DE APPR. NES COPYRIGHT @ 1917 BY GRAT ASSESSABLE USA, INC. DATE 08.08.08

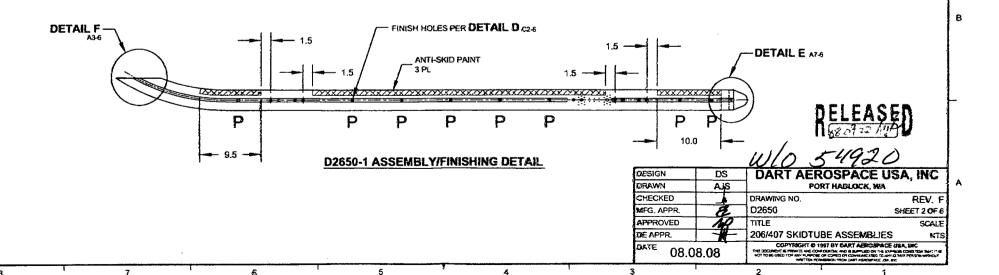
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W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
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Part No:	_ PAR #: Fault Category:	NCR: Yes No DQA:	_ Date:
Resolution:	Disposition:	QA: N/C Closed:	Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)										
DATE OTED		Description of NC	Description of NC Corrective Action Section B				Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Chief Eng	QC Inspector				
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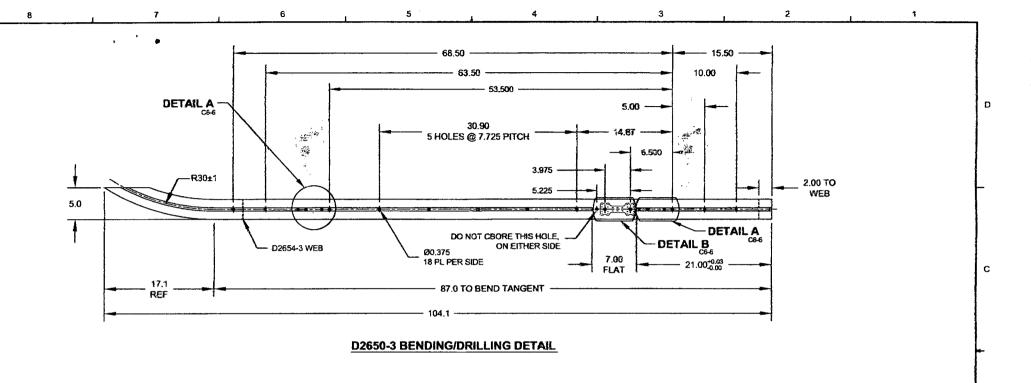


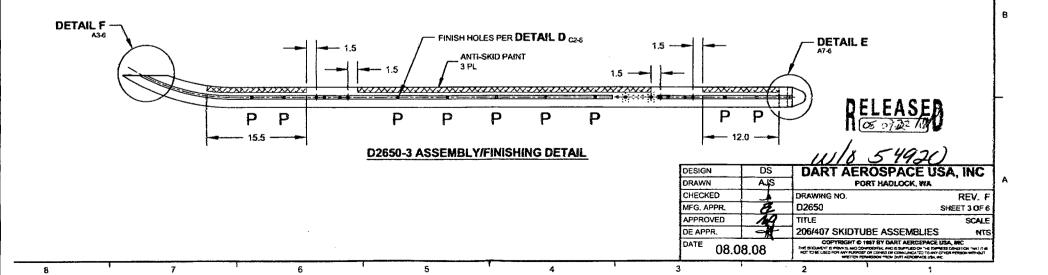


W/O:		WORK ORDER CHANGES							
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Part No:		PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
	Resolution:		Disposition:	QA: N/C Closed:	Date:

NCR:	WORK ORDER NON-CONFORMANCE (NCR)							
		Description of NC		Corrective Action Section B		Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector

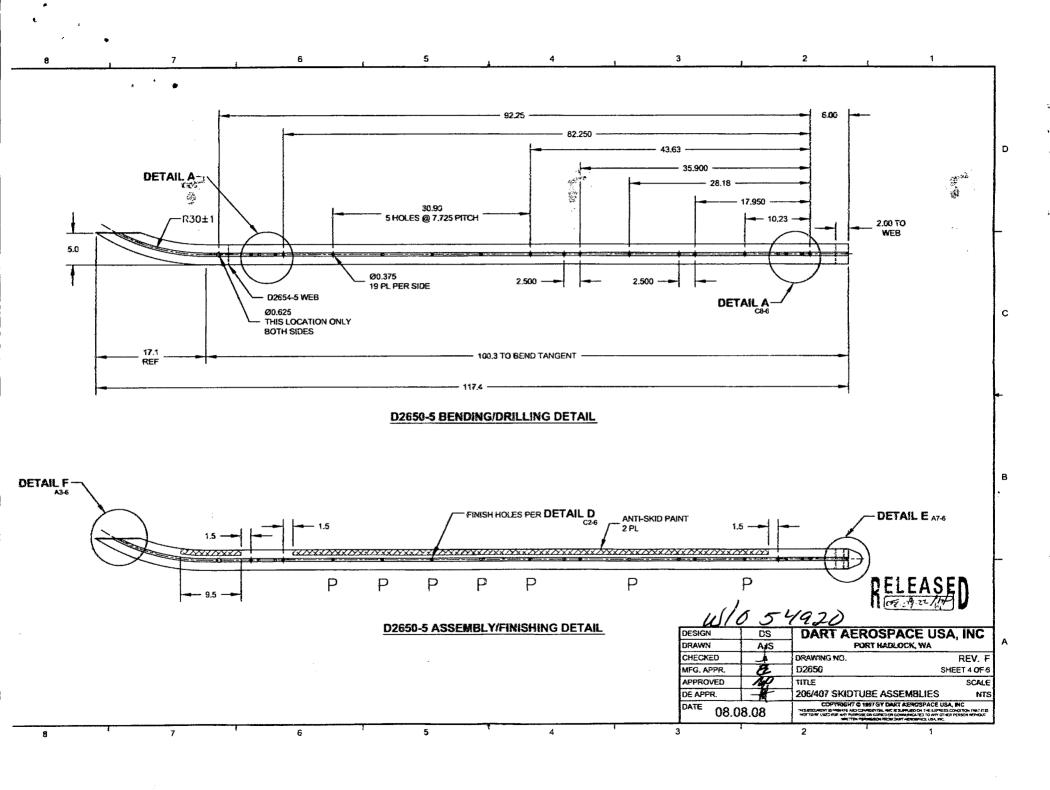




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W/O:				WORK ORDER CHANGES						
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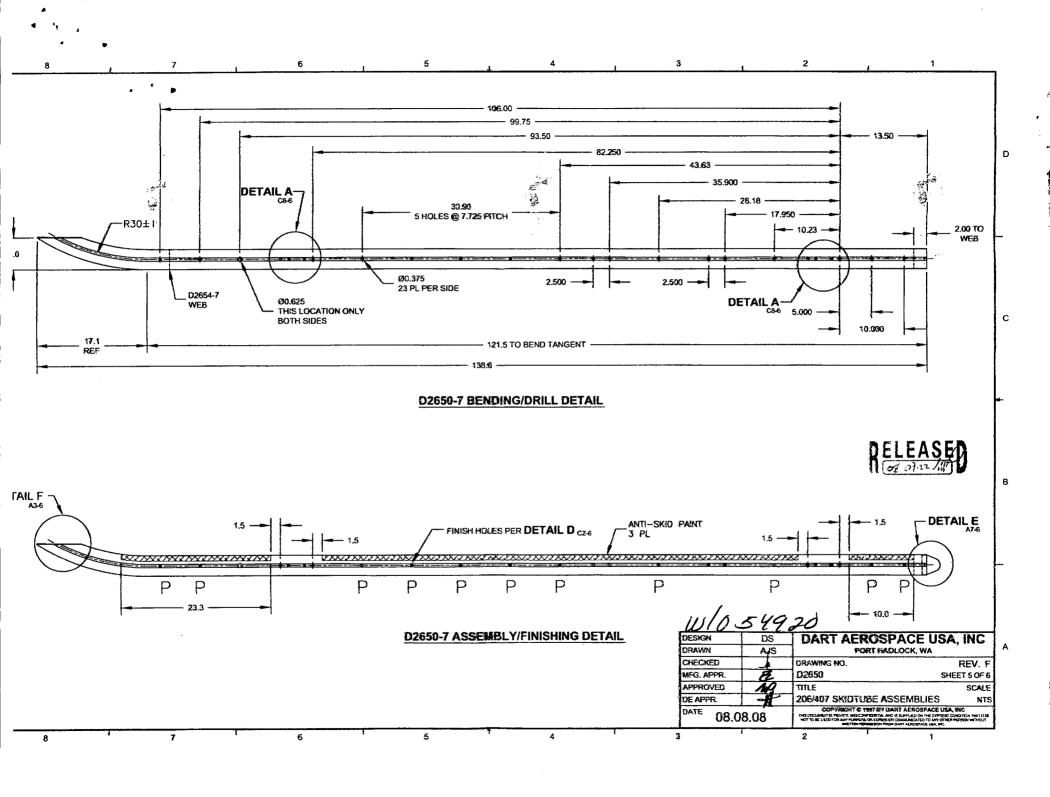
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W/O: WORK ORDER CHANGES					•		
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Part No: _		PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:
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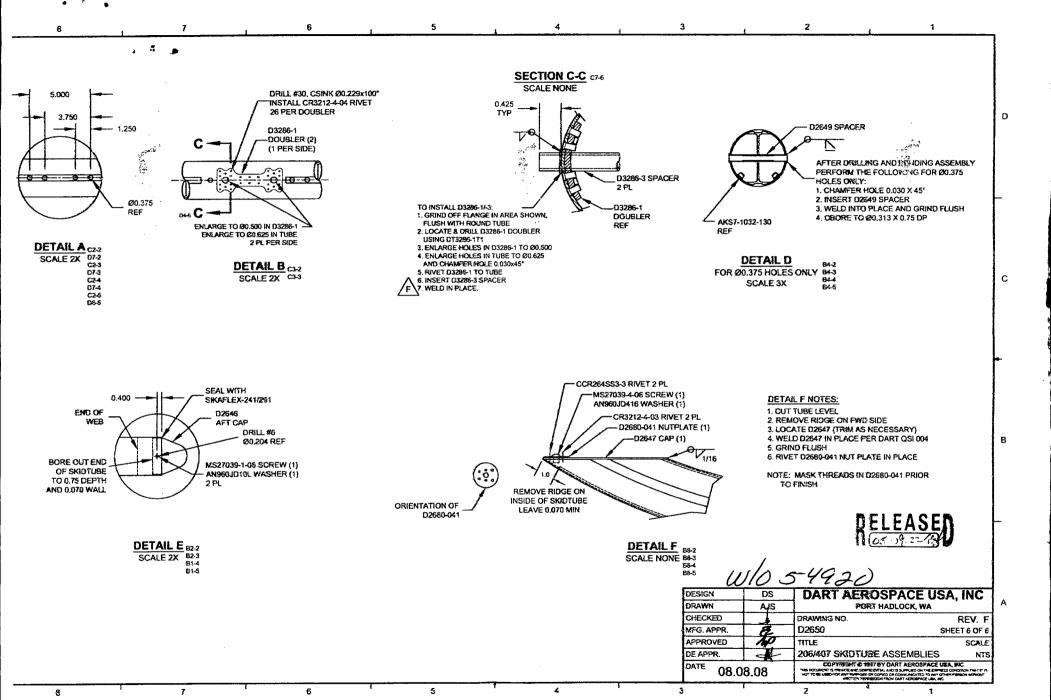
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		Description of NC		Corrective Action Section B			Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Chief Eng	QC Inspector			
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W/O:		WORK ORDER CHANGES									
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Resolution:	<u>.</u>	Disposition:	QA: N/C Closed:	Date:

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Dart Aerospace	Ltd
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W/O:		WORK ORDER CHANGES								
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
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AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Bricky Elliott
Job number: 5304 0 538k7
Part number: Dade 642.541
Description: <u>acle skid</u>
Welding Process: Tig[/] Mig[]
Base materiel: Aluminian
Current: AC[DC]

TEST REQUIREMENTS AND RESULTS

Visual: Penetration:	pass[/] pass[/]	fail[] fail[]
UNACCEPTABLE		
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[] pass[] pass[] pass[] pass[]	
Qualifier Solay Elliott	Date of Test Coupon <u>C9.11.10</u> Date of Test Coupon <u>C9-11-16</u>	

The above named individual is qualified in accordance with AWS D17.1.2001 to weld